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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/843,232	04/26/2001	Ramin Moshiri-Tafreshi	4740-001	8386

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EXAMINER	
MATTIS, JASON E	
ART UNIT	**PAPER NUMBER**
2665	

DATE MAILED: 07/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/843,232	MOSHIRI-TAFRESHI ET AL.	
	Examiner	Art Unit	
	Jason E. Mattis	2665	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 February 2005 and 18 April 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-13* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-13* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *18 April 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. This Office Action is in response to the amendment filed on 2/24/05. Due to the amendment, the previous drawing objection has been withdrawn and the replacement drawings have been entered. Claims 1-13 are currently pending in the application.

Claim Rejections - 35 USC § 103

1. Claims 1-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rezaiifar et al. (U.S. Pat. 6467270) in view of Cheng et al. (U.S. Pat. 6393008).

With respect to claim 1, Rezaiifar et al. discloses a method of managing network resources in a radio network **(See column 3 lines 6-20 of Rezaiifar et al. for reference to a method of providing channels for communication in a mobile network)**. Rezaiifar et al. also discloses establishing a packet data connection with an access terminal, remote station 6 **(See column 5 lines 13-34 of Rezaiifar et al. for reference to remote stations 6 establishing a connection and transmitting data to zero or more base stations 4)**. Rezaiifar et al. further discloses allocating network resources to the packet data connection with the access terminal, remote station 6, with the network resources including a fundamental radio frequency channel and a supplemental radio frequency channel **(See column 3 line 6-20 of Rezaiifar et al. for reference to allocating network resources including a fundamental channels and supplemental channels used to transmit high speed data)**. Rezaiifar et al. also

discloses monitoring the activity status of the packet data connection using a second timer **(See column 16 lines 4-26 of Rezaiifar et al. for reference to monitoring the period of inactivity, which is the time duration since the termination of the last data transmission, using at timer)**. Rezaiifar et al. also discloses releasing the fundamental frequency channel if the packet data connection is inactive for a period that exceeds the duration value of the second timer **(See column 16 lines 4-45 of Rezaiifar et al. for reference to placing a remote station 6 in a suspended mode if the period of inactivity exceeds a first predetermined idle period, which corresponds to the claimed duration value of the second timer, and for reference to releasing the traffic channels, which includes the fundamental channel, in the suspended mode)**. Rezaiifar et al. does not disclose releasing the supplemental channel if the packet data connection is inactive for a first period that exceeds the duration value of the first timer while maintaining the connection with the fundamental frequency channel.

With respect to claim 5, Rezaiifar et al. discloses a base station radio network **(See column 5 lines 13-34 and Figure 1 of Rezaiifar et al. for reference to a mobile communications system with a base station 4)**. Rezaiifar et al. also discloses a base transceiver station, base station 4, for communicating with an access terminal over a fundamental frequency channel and a supplemental frequency channel **(See column 5 lines 35-45 and column 3 lines 6-20 of Rezaiifar et al. for reference to a base station 4 and for reference to communicating over a fundamental channel and a supplemental channel)**. Rezaiifar et al. further discloses a base station controller 10 to perform channel allocation and supervision **(See column 5 lines 35-54 of Rezaiifar**

et al. for reference to a base station controller 10 performing channel allocation and supervision). Rezaiifar et al. also discloses the base station controller 10 having a second timer **(See column 16 lines 4-26 of Rezaiifar et al. for reference to monitoring the period of inactivity, which is the time duration since the termination of the last data transmission, using at timer)**. Rezaiifar et al. further discloses allocating the fundamental and supplemental radio frequency channels to the access terminal, remote station 6, to establish or maintain a packet data connection with the access terminal, remote station 6 **(See column 3 line 6-20 of Rezaiifar et al. for reference to allocating network resources to a remote station 6 including a fundamental channels and supplemental channels used to transmit high speed data)**. Rezaiifar et al. also discloses monitoring the activity status of the packet data connection using a second timer **(See column 16 lines 4-26 of Rezaiifar et al. for reference to monitoring the period of inactivity, which is the time duration since the termination of the last data transmission, using at timer)**. Rezaiifar et al. also discloses releasing the fundamental frequency channel if the packet data connection is inactive for a period that exceeds the duration value of the second timer **(See column 16 lines 4-45 of Rezaiifar et al. for reference to placing a remote station 6 in a suspended mode if the period of inactivity exceeds a first predetermined idle period, which corresponds to the claimed duration value of the second timer, and for reference to releasing the traffic channels, which includes the fundamental channel, in the suspended mode)**. Rezaiifar et al. does not disclose releasing the supplemental channel if the packet data connection is inactive for a first period that

exceeds the duration value of the first timer while maintaining the connection with the fundamental frequency channel.

With respect to claim 9, Rezaiifar et al. discloses a method of connection supervision in a radio network **(See column 3 lines 6-20 of Rezaiifar et al. for reference to a method of providing and supervising channels for communication in a mobile network)**. Rezaiifar et al. also discloses allocating resources to a connection between the radio network and a wireless access terminal, remote station 6, in response to receiving a request from the wireless access terminal, remote station 6 **(See column 11 lines 28-33 of Rezaiifar et al. for reference to allocating resources in response to a request from a remote station 6 using an access channel)**. Rezaiifar et al. further discloses the resources including traffic resources and base station controller resources **(See column 5 lines 35-54 and Figure 2 of Rezaiifar et al. for reference to allocating RF channels and base station controller resources to the packet data connection by assigning sector elements 14 to control the communications between one or more base stations 4 and one remote station 6)**. Rezaiifar et al. further discloses releasing a remaining portion of the traffic channel resources and the BSC resources if the connection remains inactive for longer than a second time out period **(See column 16 lines 4-45 and column 17 lines 5-18 of Rezaiifar et al. for reference to placing a remote station 6 in a suspended mode if the period of inactivity exceeds a first predetermined idle period, which corresponds to the claimed second time out period, and for reference to releasing the traffic channels, which includes the fundamental channel, in the suspended**

mode and for further reference to releasing the BSC resources when the remote station 6 is placed in a dormant mode, which occurs after a second predetermined idle period, but is also after the first predetermined idle period). Rezaiifar et al. does not disclose releasing a portion of the traffic channel resources allocated to the connection if the connection remains inactive from longer than a first time out period.

With respect to claim 10, Rezaiifar et al. does not disclose de-allocating at least one traffic channel allocated to the connection at a radio base station in the radio network after the first timeout period.

With respect to claim 11, Rezaiifar et al. does not disclose reducing the traffic channel bandwidth allocated to the connection after the first timeout period.

With respect to claims 1, 5, 9, 10, and 11, Cheng et al., in the field of communications, discloses using a first timer to monitor the activity status of the packet data connection and releasing the supplemental channel if the packet data connection is inactive for a first period that exceeds the duration value of the first time while maintaining the connection with the fundamental frequency channel **(See column 6 lines 32-65 and Figure 4 of Cheng et al. for reference to, when a reverse link packet data inactivity timer, which corresponds to the claimed first timer, has timed out, step 424, and the fundamental channel was not assigned at step 418, releasing the supplemental in step 430 without releasing the fundamental channel, meaning that a traffic channel has been released and the bandwidth allocated to the traffic channel has been decreased).** Using a first timer to monitor

the activity status of the packet data connection and releasing the supplemental channel if the packet data connection is inactive for a first period that exceeds the duration value of the first time while maintaining the connection with the fundamental frequency channel has the advantage of allowing a user service that requires only the fundamental channel be allocated to continue to communicate using the fundamental channel even when a data packet communication service, that needs both the fundamental and supplement channels allocated, has been determined to be idle for a predetermined time, while at the same time releasing the resources of the supplemental channel so that these resources may used by another user **(See column 5 lines 27 to column 6 line 65 for reference to this process and its advantage)**.

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Cheng et al., to combine using a first timer to monitor the activity status of the packet data connection and releasing the supplemental channel if the packet data connection is inactive for a first period that exceeds the duration value of the first time while maintaining the connection with the fundamental frequency channel, as suggested by Cheng et al., with the system method of releasing all traffic channel allocations, including a fundamental traffic channel, upon another inactivity timer being exceeded, as disclosed by Rezaiifar et al., with the motivation being to allow a user service that requires only the fundamental channel be allocated to continue to communicate using the fundamental channel even when a data packet communication service, that needs both the fundamental and supplement channels allocated, has been determined to be idle for a predetermined time, while at

the same time releasing the resources of the supplemental channel so that these resources may used by another user.

With respect to claim 2, Rezaiifar et al. discloses allocating base station controller resources to the packet data connection **(See column 5 lines 35-54 and Figure 2 of Rezaiifar et al. for reference to allocating base station controller resources to the packet data connection by assigning sector elements 14 to control the communications between one or more base stations 4 and one remote station 6)**.

With respect to claim 3, Rezaiifar et al. discloses maintaining the base station controller resources after expiration of the first timer **(See column 16 line 28 to column 17 line 3 of Rezaiifar et al. for reference to maintaining controller resources by maintaining connection state information in the suspended mode, which the remote station 6 enters after the first time period has expired)**.

With respect to claim 4, Rezaiifar et al. discloses initiating call tear-down procedures to release the base station controller resources when the second timer expires **(See column 17 lines 5-18 of Rezaiifar et al. for reference to tearing down the call by not maintaining any call state information, controller resources, in the dormant mode, which the remote station enters after the first second time periods has expired)**.

With respect to claim 6, Rezaiifar et al. discloses allocating base station controller resources to the packet data connection **(See column 5 lines 35-54 and Figure 2 of Rezaiifar et al. for reference to allocating base station controller**

resources to the packet data connection by assigning sector elements 14 to control the communications between one or more base stations 4 and one remote station 6).

With respect to claim 7, Rezaiifar et al. discloses maintaining the base station controller resources after expiration of the first timer **(See column 16 line 28 to column 17 line 3 of Rezaiifar et al. for reference to maintaining controller resources by maintaining connection state information in the suspended mode, which the remote station 6 enters after the first time period has expired)**.

With respect to claim 8, Rezaiifar et al. discloses releasing the base station controller resources when the second timer expires **(See column 17 lines 5-18 of Rezaiifar et al. for reference to releasing the call by not maintaining any call state information, controller resources, in the dormant mode, which the remote station enters after the first and second time periods has expired)**.

With respect to claim 12, Rezaiifar et al. discloses initiating call tear-down procedures to de-allocated the connection processing resources and the remaining portion of the traffic resources **(See column 17 lines 5-18 of Rezaiifar et al. for reference to tearing down the call by not maintaining any call state information, controller resources, in the dormant mode, which the remote station enters after the first predetermined time period and second predetermined time period had been exceeded)**.

With respect to claim 13, Rezaiifar et al. discloses setting the relative duration of the first and second time out periods to maximize the number of connections that can

be supported by the radio network on average based on a relationship between RF resource capacity of the radio network and connection processing capacity of the radio network **(See column 15 line 64 to column 16 line 26 of Rezaiifar et al. for reference to using the time periods to more fully utilize forward and reverse link capacity and for reference to selecting specific 1 second and 60 second times for the first and second time periods in order to maximize the RF capacity utilization)**.

Response to Arguments

2. Applicant's arguments filed 2/24/05 have been fully considered but they are not persuasive.

In response to Applicant's argument that:

> "Because Rezaiifar and Cheng both teach the use of one inactivity timer to tear down all of the channel resources specifically established for a data connection, the cannot make the claimed invention's use of separate fundamental and supplemental channel inactivity timers obvious, whether Rezaiifar and Cheng are taken alone or together." (See page 6 of Applicant's Remarks section)

the Examiner respectfully disagrees. First, Rezaiifar et al. teaching using two separate timers to release all the resources of a data connection (See column 16 lines 4-45). However, as shown in the rejections above, Rezaiifar et al. does not disclose the function of releasing a supplemental channel and maintaining a fundamental channel

upon expiration of the first time. Therefore, the rejections above also rely on Cheng et al. Cheng et al. discloses releasing only the supplement channel while maintaining a fundamental channel upon expiration of a timer (See column 6 lines 32-65). The combination of these references results in a combination of the two separate timers used to release channel resources as disclosed by Rezaiifar et al., with the function of the timer disclosed by Cheng et al. Therefore, the combination of Rezaiffar et al. and Cheng et al. discloses all the claim limitations of independent claims 1, 5, and 9.

In response to Applicant's argument that:

> "Simply put, because Cheng teaches one inactivity time to tear down all of the channel resources established for a given data connection, and because Rezaiifar teaches the identical use of a single inactivity timer, one skilled in the art would understand that the teachings of Cheng add nothing to the teachings of Rezaiifar. Therefore one skilled in the art would have not motivation to combine Cheng with Rezaiifar." (See page 6 of Applicant's Remarks section)

the Examiner respectfully disagrees. Rezaiifar et al. does not disclose the use of a single inactivity timer. Rezaiifar et al. teaches using two separate timers to release all the resources of a data connection **(See column 16 lines 4-45)**. The functions that are performed upon the expiration of an inactivity timer in the Rezaiifar et al. reference and the Cheng et al. reference are different. Therefore, the combination relied upon in the rejections above is a combination of the multiple timers used by Rezaiifar et al. with the function performed upon detecting a timer expiration as disclosed by Cheng et al.

Therefore, one skilled in the art would have a motivation to combine the teachings of Cheng et al. (in particular the teaching of releasing a supplemental channel while maintaining a fundament channel) with the teachings of Rezaiifar et al. with a motivation as shown in the rejections above.

Conclusion

3. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason E. Mattis whose telephone number is (571) 272-3154. The examiner can normally be reached on M-F 8AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on (571) 272-3155. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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